

US009411271B2

# (12) United States Patent

#### Matsushita

# (10) **Patent No.:**

# US 9,411,271 B2

# (45) **Date of Patent:**

Aug. 9, 2016

# (54) IMAGE FORMING APPARATUS TO SET TARGET CURRENTS

# (71) Applicant: CANON KABUSHIKI KAISHA,

Tokyo (JP)

(72) Inventor: Mio Matsushita, Tokyo (JP)

(73) Assignee: Canon Kabushiki Kaisha, Tokyo (JP)

(\*) Notice: Subject to any disclaimer, the term of th

Subject to any disclaimer, the term of this patent is extended or adjusted under 35

U.S.C. 154(b) by 0 days.

(21) Appl. No.: 14/716,636

(22) Filed: May 19, 2015

## (65) Prior Publication Data

US 2015/0338791 A1 Nov. 26, 2015

## (30) Foreign Application Priority Data

May 23, 2014 (JP) ...... 2014-107613

(51) Int. Cl.

G03G 15/16 G03G 15/00 (2006.01) (2006.01)

(52) U.S. Cl.

(2013.01)

## (58) Field of Classification Search

#### (56) References Cited

#### U.S. PATENT DOCUMENTS

2002/0006294	A1*	1/2002	Yano	G03G 15/1685
2006/0210322	A1*	9/2006	Watanabe	399/310 G03G 15/0121 399/299

#### FOREIGN PATENT DOCUMENTS

JP	2-123385 A	5/1990
JP	2008-129471 A	6/2008
JP	2010-72074 A	4/2010
JP	2011-65024 A	3/2011

<sup>\*</sup> cited by examiner

Primary Examiner — Clayton E Laballe Assistant Examiner — Victor Verbitsky

(74) Attorney, Agent, or Firm — Canon USA, Inc. IP Division

#### (57) ABSTRACT

An image forming apparatus includes a control portion that controls, before performing continuous image formation on a plurality of transfer materials, a voltage to be applied to a primary transfer member for primary transfer during the continuous image formation, and a correction unit that corrects the primary transfer voltage during the continuous image formation. The correction unit can perform a first mode for controlling the primary transfer voltage according to a target value determined by the control portion, and a second mode for changing the target value and controlling the primary transfer voltage according to the changed value. The control portion performs the first mode if a detected electric resistance is a first value or lower, or a second value, greater than the first value, or higher, and performs the second mode if the resistance is higher than the first value and lower than the second value.

#### 12 Claims, 14 Drawing Sheets

